

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the reasons that follow.

No claims have been amended. Claims 1, 6-8 and 12-15 remain pending in this application.

A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

Rejections under 35 U.S.C. § 103

Claims 1, 8 and 12-15 stand rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 5,914,754 to Kori et al. ("Kori") in view of U.S. Patent No. 6,458,520 to Ishikawa et al. ("Ishikawa"). Claims 6-7 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Kori in view of Ishikawa and in further view of U.S. Patent No. 5,323,235 to Tonomura et al. (hereafter "Tonomura"). Applicant respectfully traverses these rejections for at least the following reasons.

Independent claim 1 is directed to a picture convert apparatus. The picture convert apparatus of claim 1 includes a CPU that "inputs, a first picture data, produces a second picture data consisting of a first black area, a second black area and an area consisting of a reduced number of lines of said first picture, the reduced number of lines being half a number of lines of the first picture, and transfers said second picture data to a frame data buffer" and an auxiliary processing unit that "inputs said second picture data from said frame data buffer and enlarges said second picture data to provide an enlarged picture, the enlarged picture being enlarged $3/2$ times relative to the second picture data in the vertical direction." Thus, in the present invention of claim 1, the first part of the reduction processing of picture data is performed by the CPU, while the second part of the processing is performed by the auxiliary processing unit. The CPU and the auxiliary processing unit work together to reduce the picture data, and the frame data buffer is used to pass the intermediate data processed by the CPU to the auxiliary processing unit. Dividing the processing between the CPU and the auxiliary processing unit enables the CPU to be off-loaded to reduce the picture data, in order to ensure that the picture reduction can be accomplished in time, and to improve the

processing capability for picture reduction. The references cited in the rejection of the claims fails to suggest the features of claim 1, or there advantages.

Kori does not disclose a CPU and auxiliary processing unite that work together to reduce picture data in the fashion of claim 1.

Ishikawa fails to cure the deficiencies of Kori. Ishikawa discloses first and second line buffers (50a, 50b) that alternately receive odd and even line picture element data from an addition average operation means 49 that adds the values of two adjacent picture elements, and first to third frame memory units 51-53 that store image data corresponding to one frame color image recorded on a film (Figure 5, col. 16, lines 39-59). First and second picture processing means 61 and 62 perform picture processing on image data from the second and third frame memories and the first frame memory, respectively (col. 18, lines 45-59). Ishikawa, however, fails to suggest the relative arrangement of the CPU, frame buffer, and auxiliary processing unit of claim 1. In Ishikawa, the line buffers 50a, 50b and frame memory units 51-53 are upstream of data flow relative to both the first picture processing means 61 and the second picture processing means 62 (See Figs. 5 and 6). Therefore, the line buffers 50a, 50b and frame memory units 51-53 are not arranged to receive intermediate data processed by the first picture processing means 61, and to send that on to the second processing means 62, or to receive intermediate data processed by the second picture processing means 62, and to send that on to the first processing means 61. Thus, even if Kori were modified to include the structure of Ishikawa, the resultant structure would not meet the limitations of claim 1.

Moreover, there is no motivation to modify the Kori apparatus with the picture processing device 5 of Ishikawa containing the line buffers 50a, 50b, frame memory units 51-53 and picture processing means 61 and 62. The picture processing device 5 of Ishikawa is very specifically designed to add values of two adjacent picture elements (via operation means 49), alternately stored odd and even line picture element data (in buffers 50a, 50b), store image data, based on the line data, corresponding to one frame color image recorded on a film F in respective frame memory units and perform picture processing on the stored image data (via the processing means 61 and 62). There is no suggestion, however, as to why one skilled in the art would have used this processing scheme of Ishikawa, which is specifically

for processing color images for a film F, to the Kori system which is directed to a video signal aspect ratio conversion apparatus.

Still further, even if Kori were modified to include an auxiliary processing unit and intermediate frame buffers, Kori fails to suggest the processing as recited in claim 1. In contrast to the processing performed by the structure of claim 1, Kori does not disclose the two steps of first producing second picture data from first picture data to have an area with a reduced number of lines sandwiched between black areas, and then enlarging the second picture data and displaying the enlarged data on a display, or the advantages thereof. Kori only discloses displaying a video picture with upper and lower blank portions (See Figures 16a-16c, col. 1, lines 32-40), but does not disclose how this picture data that is displayed is derived. While Kori does not disclose what technique is used for displaying the 16:9 picture data on the 4:3 television display for Figures 16a-16c, it is entirely possible that Kori may use one of the conventional techniques disclosed in the present specification (see specification, page 1, line 15 to page 2, line 13, and Figure 8). In any event, Kori does not disclose the two steps of first producing second picture data from first picture data to have an area with a reduced number of lines sandwiched between black areas, and then enlarging the second picture data and displaying the enlarged data on a display.

Moreover, this two step technique provides data processing advantages not realized by either Kori or the conventional techniques. Specifically, this technique reduces the load on the CPU in processing (see present specification, page 3, lines 10-14, page 11, lines 8-17, for example). Such a reduction on the load in the CPU is not contemplated by Kori. When the present invention of claim 1 is considered as a whole, including its attendant advantages, claim 1 is clearly patentable over Kori remaining references cited in the rejection of the claims.

The Office Action on page 3 argues that the processing performed in the invention as claimed would have been obvious stating:

it would have been obvious to one having ordinary skill in the art to utilize the microprocessor (5) the use of which includes determining aspect ratios of the input signals in order that that a proper signal is outputted. One would have been motivated in view of the suggestion that the microprocessor can be used to obtain the desired picture data with reduced number of lines.

In addition, it would have been obvious to utilize the microprocessor to set the picture data such that the number of lines is cut by half. Consequently, this particular setting would have made the picture data on 4:3 TV of Fig. 16c enlarge $3/2$ times relative to the data in the setting.

Applicant submits, however, that neither Kori nor the remaining references suggest the two-step processing technique performed by the apparatus of claim 1. All that Kori suggests is displaying 16:9 picture data on a 4:3 television display, not the particular technique that is used to convert the aspect ratio of the data. That Kori may suggest some kind of technique to change the aspect ratio is very far from saying that Kori suggests the particular technique performed by the apparatus of claim 1. The Office Action suggests that the particular technique employed in the apparatus of claim 1 is obvious, but there is no suggestion at all of this technique in Kori or the remaining references cited in the rejection, or of the advantages of this technique.

Tonomura does not cure the deficiencies of Kori and Ishikawa. Tonomura was cited for allegedly teaching an aspect ratio converting portion including a compression controller which determines the compression ratio. Tonomura, however, like Kori, fails to disclose an apparatus with a CPU and auxiliary processing unit that share the picture contraction processing in the fashion recited in claim 1.

Independent claims 8 and 15 are patentable over the references cited in the rejection for reasons analogous to claim 1. The dependent claims are patentable for at least the same reasons as their independent claims, as well as for further patentable features recited therein.

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a

check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

Date June 14, 2004

FOLEY & LARDNER LLP
Customer Number: 22428
Telephone: (202) 672-5407
Facsimile: (202) 672-5399

By Thomas G. Bilodeau

David A. Blumenthal
Attorney for Applicant
Registration No. 26,257

Thomas G. Bilodeau
Attorney for Applicant
Registration No. 43,438